PZVM1 Administration Guide

V1.1
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CORE IT PROJECT

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1 GENERAL INFORMATION

1.1 System Overview

This documentation describes the zabbix proxy VM designed by CORE IT PROJECT. The proxy is produced in OVF format (primary developped on ESXi 5.0).

A Zabbix proxy is the ideal solution for centralized monitoring of:
- remote locations
- branches
- secured networks
- with zero administration

Main Features
Embedded Debian 6.0
Whole configuration with Web Interface
Lowcost (from 50 euros)
Zero Admin Solution
Provide main 1.8, 2.0 & 2.2 Zabbix versions
Option Installation Assistance
Option Remote Support

Product Description
Embedded Debian 6.0
Backend Database SQLite3
Compiled Zabbix Proxy with :
- Zabbix Agent
- Zabbix Java Gateway
- Zabbix ssh Agent
- Zabbix IPMI Agent
- Zabbix SNMP Agent
- Zabbix Web Monitoring Agent
- Zabbix Databases Agents: MYSL, DB2, Postgresql, Oracle & MSSQL
- Zabbix ESX Agent
- SNMP Traps

Supported 1.8 versions : 1.8.13 → 1.8.last
Supported 2.0 versions : 2.0.0 → 2.0.last
Supported 2.0 versions : 2.2.0 → 2.2.last
Recommended max load : 100 items/s
1 X CPU (could be extended on Virtualization Host platform)
RAM 256MB - Storage 4GB (could be extended on Virtualization Host platform)
1 Ethernet 1000 (could be extended on Virtualization Host platform)
Support & updates provided during 1 year

Applications
Monitoring remote sites
Monitoring secured networks
Lighten the load of Zabbix server
Centralize the monitoring
JVM, SNMP, Databases & ESX Monitoring out of the Box

Architecture
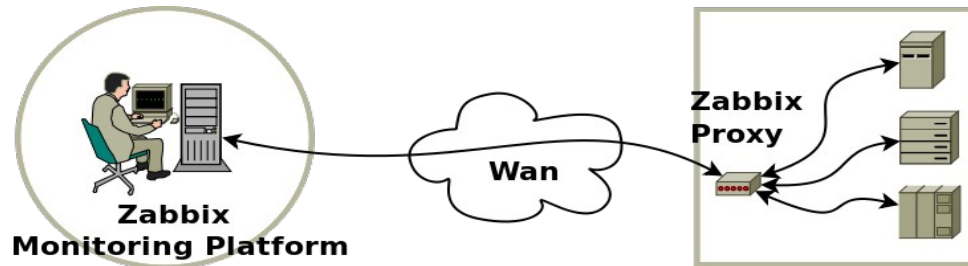
Zabbix proxy is a process that collects monitoring data from monitored devices and send the information to the Zabbix server. All collected data is buffered locally and then transferred to the Zabbix server the proxy belongs to, you can consider Zabbix proxy as a black box with zero admin.

Two modes are supported for proxy:
- active mode, the proxy will connect first to the server and request its configuration
- passive mode, the server will connect first to the proxy and downloads the proxy configuration

Thus, with those two modes, you can comply your network architecture.

Licence

All programs developed by CORE IT PROJECT contained in the Proxy box are free softwares; you can redistribute them and/or modify them under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

See the GNU General Public License for more details.

1.2 Software

Software is based on :
- Linux Debian
- Zabbix software, Zabbix SIA is a company registered in Latvia, owns the Zabbix trademark.
- CORE IT software, CORE IT PROJECT is a company registred in France:
  - Databases Monitoring (DB2, Oracle, MSSQL, MYSQL & Postgresql)
  - Zabbix_* Webmin modules
- Dmitry Maksimov software for ESX Monitoring

Linux Debian version	Zabbix version	Proxy VM version (embedded by Core IT)
Debian 6.0.6 Squeeze Nov 15th Upgrade	1.8.13 1.8.14 1.8.15 2.0.0 2.0.1 2.0.2 2.0.3	V0.1 – first release 2012 Nov 28
Debian 6.0.6 Squeeze Dec 15th Upgrade	1.8.13 1.8.14 1.8.15 2.0.0 2.0.1 2.0.2 2.0.3 2.0.4	V1.0 – second major release 2012 Dec 23 - Add crypted connection with Zabbix Server - Add ESX Monitoring - Add Databases Monitoring for Oracle, DB2, MYSQL, Postgresql & MSSQL Server - Add JVM monitoring - Add SNMP Traps - Add dump facility - Add Zabbix 2.0.4 update - Add related monitoring Zabbix templates
Debian 6.0.6 Squeeze Dec 15th Upgrade	1.8.13 1.8.14 1.8.15 2.0.0 2.0.1 2.0.2 2.0.3 2.0.4 2.2.0 2.2.2	V1.1 2014 Jan 23

2 GETTING STARTED

**Below is the configuration sequence, proceed in this order, step by step:**

1. Deploy the OVF on your favorite Virtualization Host Platform
2. Change the TCP/IP parameters
3. Change the passwords
4. Configure Time zone
5. Change the Zabbix parameters:
   1. version
   2. proxy
   3. agent
   4. java
6. Configure the crypted connection between Proxy and zabbix server
7. Configure the monitoring plugins:
   1. Databases monitoring: Oracle, DB2, MYSQL, MSSQL & Postgresql
   2. ESX monitoring
   3. SNMP Traps

2.1 Deploy OVF

In the OVF zip file, you will find:
   – The Proxy VM
   – Proxy Zabbix Template
   – Databases (Oracle, DB2, MYSQL, MSSQL Server, Postgresql) Zabbix Templates
   – ESX Zabbix Template
   – DB Monitoring V6 documentation
   – Zabbix Proxy VM Admin Guide (this document)

You deploy the ovf from your favorite Virtualization platform. Below is an example from a VMWARE vSphere client.
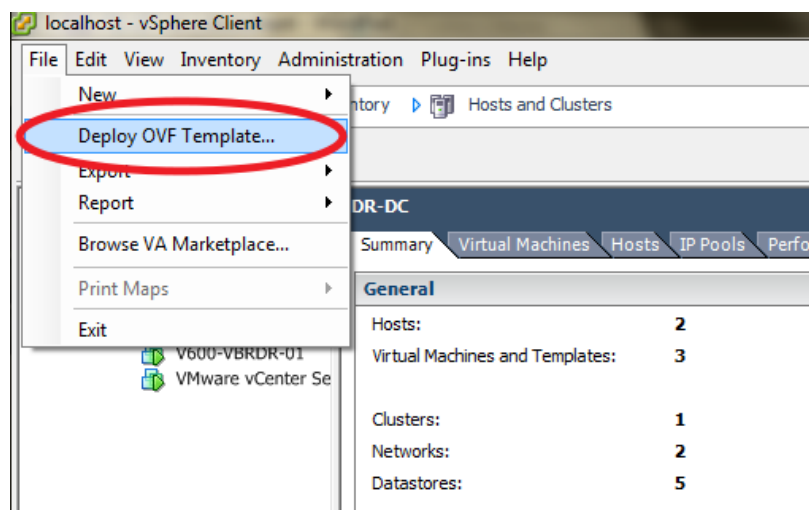
Then, you can boot the VM, the default IP is 192.168.111.70.

2.2 Logging On

Connect your favorite browser to the following URL:
http://192.168.111.70
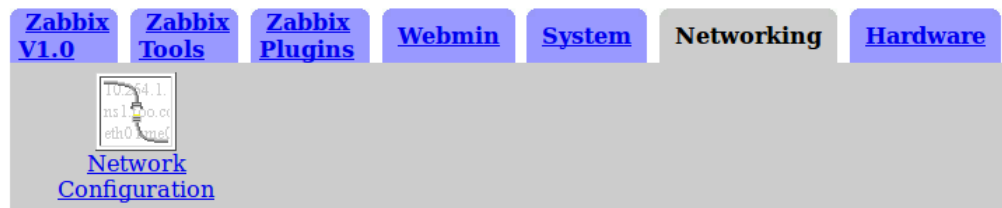
username: admin
paswword: coreit.fr

2.3 Configure TCP/IP parameters

Click on the Networking Tab and then on the Network configuration icon.

Change the TCP/IP parameters according your network.

Network Interfaces

Routing and Gateways

Hostname and DNS Client

Host Addresses
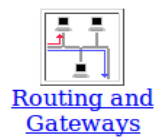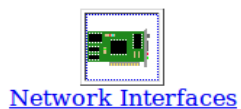
2.3.1 Network interfaces

Through Network interfaces icon, change eth0 IP address and mask, we recommend static IP configuration for your proxy.

 Save your configuration.

2.3.2 Routing and Gateways

Through Routing and gateways icon, change default gateway and add routes if needed.

Save your configuration.

2.3.3 Hostname and DNS Client

Through Hostname and DNS Client, change hostname, domain and DNS servers.

Save your configuration.

2.3.4 Host Adresses

Through Host adresses, change hosts info according your previous changes.

Update the Hosts file (local name resolution), change the default IP with your proxy's IP and configure the Fully Qualified Name & Short Name (alias).

Example:
192.168.0.25   proxyname.mydomain.myorg   proxyname

Save your configuration.

2.4 Configure Time zone

Go to the System Time Tab and Hardware icon.
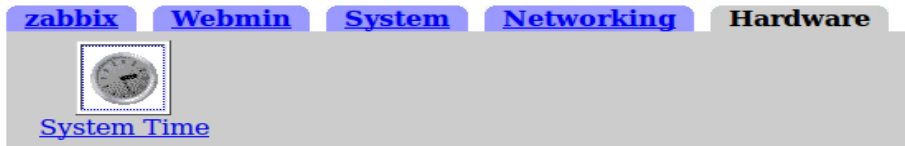
Configure the appropriate Time zone.

 Save your configuration.

 You can by-pass the next step if your VM is synchronized by another mechanism like ntp synchronization from the Virtualization Host Platform.

Configure your ntp servers (could be internal ones). We recommend you schedule the synchronization regularly and synchronize the hardware clock like on the below screenshot.

 Sync and Apply your configuration.

2.5 Change the passwords

The proxy box is configured with the following passwords:
- – Linux root : coreit.fr
- – Webmin admin : coreit.fr

As those passwords are the same for all the proxy boxes, we strongly recommend you change them.

2.5.1 Change the Webmin password

Go to the Webmin Tab and Webmin Users icon.

Click on admin user.

And change the admin password.

Save your configuration.

2.5.2 Change the Linux root password

Go to the System Tab and users and groups icon.
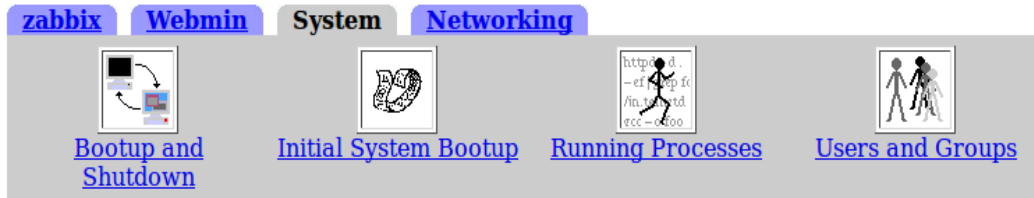
Click on root user.
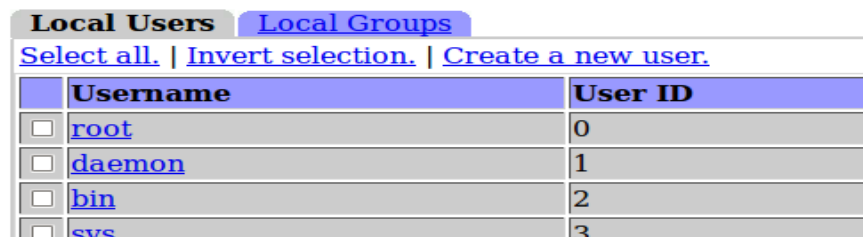
And change the root password.

 Save your configuration.

Reconnect your browser to the new URL, for example:
http://192.168.0.25

username: admin
paswword: newpasswordchain

2.6 Configure zabbix settings

Go to the Zabbix Tab.
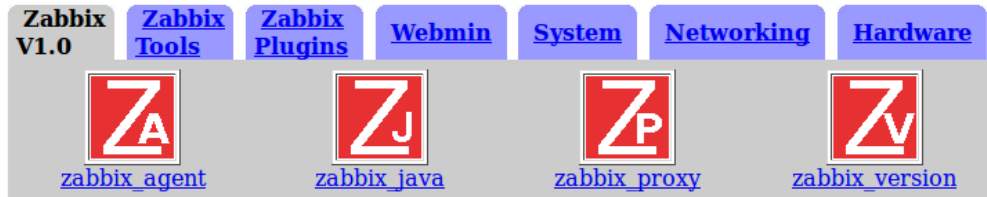
2.6.1 Select your zabbix version

Go to zabbix version icon, in the following example, version 2.0.4 will be configured.

Active version
zabbix204

Available versions
zabbix1813 zabbix1814 zabbix1815 zabbix200 zabbix201 zabbix202 zabbix203
zabbix204

Choose version: zabbix###
zabbix204

Save config and restart daemons

STOP **Remember that the zabbix proxy version must be the same as the zabbix server or lower!**

2.6.2 Configure zabbix proxy parameters

Go to zabbix proxy icon and configure the parameters according your zabbix network. Clicking on the name of the parameter will return you an online help.

enable	
enable	yes
General Configuration	
ProxyMode	0
Server	128.75.1.1
ServerPort	10051
Hostname	proxyVM
ListenPort	10051
Tunning Parameters	
ProxyOfflineBuffer	24
ConfigFrequency	3600
StartPollers	3
StartIPMIPollers	1
Java Parameters	
JavaGateway	127.0.0.1
JavaGatewayPort	10052
StartJavaPollers	2
Default Parameters	
Include	/etc/zabbix/zabbix_proxy_defaults.conf

[Save config and restart daemon]

Only main proxy parameters are configurable by frontend, other parameters must be configured via root ssh session, they are located in /etc/zabbix.

Take care, if you enable the crypted connection between the Zabbix proxy and the Zabbix server, then the Server IP must be the one used in the VPN subnet (see Zabbix_vpn module).

2.6.3 Configure zabbix agent parameters

Go to zabbix agent icon and configure the parameters according your zabbix network. Clicking on the name of the parameter will return you an online help.

enable	
enable	yes
General Configuration	
Hostname	proxyVM
ListenPort	10050
EnableRemoteCommands	1
Server	192.168.111.70,127.0.0.1
ServerActive	192.168.111.70,127.0.0.1
Tunning Parameters	
StartAgents	3
AllowRoot	0
Default Parameters	
Include	/etc/zabbix/zabbix_agentd_defaults.conf

Save config and restart daemon

i **Only main agent parameters are configurable by frontend, other parameters must be configured via root ssh session, they are located in /etc/zabbix.**

2.6.4 Configure zabbix java parameters

Go to zabbix java icon and configure the parameters according your zabbix network. Clicking on the name of the parameter will return you an online help.

enable	
enable	yes
General Configuration	
LISTEN_IP	127.0.0.1
LISTEN_PORT	10052
START_POLLERS	2
PID_FILE	/var/run/zabbix/zabbix_java.pid

Save config and restart daemon

CAUTION
JVM Monitoring is only supported with Zabbix versions 2.0.x.

2.7 Configure Crypted Connection

Go to the Zabbix Tools Tab. This configuration is not mandatory if you do not want crypted connection between Zabbix server and Zabbix proxy; if you monitor a remote office over Internet via the proxy, we recommend this configuration.

Zabbix V1.0	Zabbix Tools	Zabbix Plugins	Webmin	System	Networking	Hardware

zabbix_dump   zabbix_vpn

Go to zabbix vpn icon and configure the parameters according your zabbix network. Clicking on the name of the parameter will return you an online help.

enable	
enable	yes
General Configuration	
remote	zabbix.coreit.fr 1443
proto	tcp
dev	tun
ca	/etc/openvpn/keys/ca.crt
cert	/etc/openvpn/keys/proxy.crt
key	/etc/openvpn/keys/proxy.key
Tunning Parameters	
log	/var/log/openvpn.log
verb	3
mute	20

Save config and restart daemon

Zabbix_vpn is based on openvpn client (http://openvpn.net) , ie Zabbix server must be configured as an OpenVPN server. Please, take a look at OpenVPN HowTo to understand how to setup an OpenVPN server http://openvpn.net/index.php/open-source/documentation/howto.html

As proxy is based on debian, OpenVPN client was designed according the Debian OpenVPN Wiki http://wiki.debian.org/OpenVPN

2.8 Configure Database Plugins

Go to Zabbix Plugins Tab.
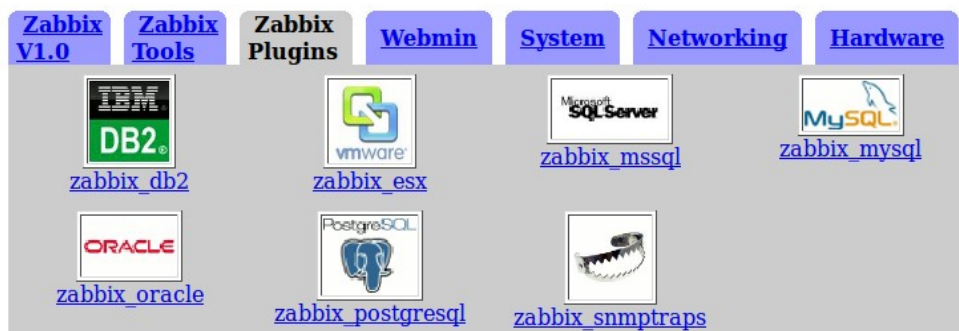
2.8.1 Configure DB2 Monitoring parameters

Go to zabbix db2 icon and configure the parameters according your DB2 server. Clicking on the name of the parameter will return you an online help.

Default Parameters	
default_user	no_default_user
default_password	no_default_password
instance	
name	db2_instance_name
host	192.168.0.96
port	50001
username	db2_user
password	secret_password

Save config

Templates Configuration
On Zabbix frontend, DB2 hosts must be configured with two templates:
- T_DB2_INSTANCE Template that contains DB2 Instance monitoring.
- T_DB2_DATABASE Template that contains DB2 Database monitoring.

Hosts Configuration
On Zabbix frontend, two macros must be configured on DB2 hosts:
- {$DB2_INSTANCE_NAME} The instance name you entered upper.
- {$DB2_DATABASE_NAME} Name of monitored database.

Online Help

Read Online Help, it will guide you for the Database Monitoring Setup. The Version 1.0 frontend is not able to configure more than one Database Instance,

but you can configure the Zabbix Monitoring with ssh connection if you need more. Database Templates are included in the OVF zip file.

2.8.2 Configure Oracle Monitoring parameters

Go to zabbix oracle icon and configure the parameters according your Oracle server. Clicking on the name of the parameter will return you an online help.

Default Parameters	
apiurl	https://zabbix.coreit.fr/
apiuser	apiuser
apipass	apipass
default_user	no_default_user
default_password	no_default_password
Instance Parameters	
name	oracle_instance_name
host	192.168.0.98
port	1521
service	Service_name
username	user_name
password	secret_password

Save config

Templates Configuration
On Zabbix frontend, ORACLE hosts must be configured with one template :
- T_ORACLE_INSTANCE Template that contains ORACLE Instance monitoring.

Hosts Configuration
On Zabbix frontend, two macros must be configured on ORACLE hosts:
- {$ORACLE_INSTANCE_NAME} The instance name you entered upper.
- {$ORACLE_ALERTLOGPATH} The alert log path of the SID except if you configure upper fields apiuser, apipass & apiurl; in this case, the alert log path will be discovered automatically.

Online Help

Read Online Help, it will guide you for the Database Monitoring Setup. The Version 1.1 frontend is not able to configure more than one Database Instance, but you can configure the Zabbix Monitoring with ssh connection if you need more. Database Templates are included in the OVF zip file.

2.8.3 Configure MS SQL Server Monitoring parameters

Go to zabbix mssql icon and configure the parameters according your MS SQL server. Clicking on the name of the parameter will return you an online help.

Default Parameters	
tds_version	8.0
text_size	64512
default_user	no_default_user
default_password	no_default_password
Instance Parameters	
name	xp_mssql
host	192.168.62.95
port	1435
username	sa
password	oct00ant

Save config

Templates Configuration
On Zabbix frontend, MSSQL hosts must be configured with three templates :
- T_MSSQL_DEFAULT_INSTANCE Template that contains perf counters for the default instance.
- T_MSSQL_NAMED_INSTANCE Template that contains perf counters for the named instance.
- T_MSSQL_DATABASE Template that contains MSSQL Database monitoring.

Hosts Configuration
On Zabbix frontend, three macros must be configured on MSSQL hosts:
- {$MSSQL_INSTANCE_NAME} The name of the default instance you entered upper.
- {$MSSQL_DATABASE_NAME} Name of monitored database.
- {$MSSQL_NAMED_INSTANCE_NAME} The name of the named instance (given by item: MSSQL Server Instance Name).

Online Help

Read Online Help, it will guide you for the Database Monitoring Setup. The Version 1.1 frontend is not able to configure more than one Database Instance, but you can configure the Zabbix Monitoring with ssh connection if you need more. Database Templates are included in the OVF zip file.

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2.8.4 Configure MYSQL Monitoring parameters

Go to zabbix mysql icon and configure the parameters according your MYSQL server. Clicking on the name of the parameter will return you an online help.

Default Parameters	
default_user	no_default_user
default_password	no_default_password
instance	
name	mysql_instance
host	192.168.0.99
port	3306
username	user_name
password	secret_password

Save config

Templates Configuration
On Zabbix frontend, MYSQL hosts must be configured with two templates :
- T_MYSQL_INSTANCE Template that contains MYSQL Instance monitoring.
- T_MYSQL_DATABASE Template that contains MYSQL Database monitoring.

Hosts Configuration
On Zabbix frontend, two macros must be configured on MYSQL hosts:
- {$MYSQL_INSTANCE_NAME} The instance name you entered upper.
- {$MYSQL_DATABASE_NAME} Name of monitored database.

Online Help

Read Online Help, it will guide you for the Database Monitoring Setup. The Version 1.1 frontend is not able to configure more than one Database Instance, but you can configure the Zabbix Monitoring with ssh connection if you need more. Database Templates are included in the OVF zip file.

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2.8.5 Configure POSTGRESQL Monitoring parameters

Go to zabbix Postgresql icon and configure the parameters according your Postgresql server. Clicking on the name of the parameter will return you an online help.

Default Parameters	
default_user	no_default_user
default_password	no_default_password
instance	
name	instance_name
host	192.168.0.99
port	5432
username	user_name
password	secret_password

Save config

Templates Configuration
On Zabbix frontend, POSTGRESQL hosts must be configured with two templates :
- T_POSTGRESQL_INSTANCE Template that contains POSTGRESQL Instance monitoring.
- T_POSTGRESQL_DATABASE Template that contains POSTGRESQL Database monitoring.

Hosts Configuration
On Zabbix frontend, two macros must be configured on POSTGRESQL hosts:
- {$POSTGRESQL_INSTANCE_NAME} The instance name you entered upper.
- {$POSTGRESQL_DATABASE_NAME} Name of monitored database.

Online Help

Go to zabbix postgresql icon and configure the parameters according your Postgresql server. Clicking on the name of the parameter will return you an online help.
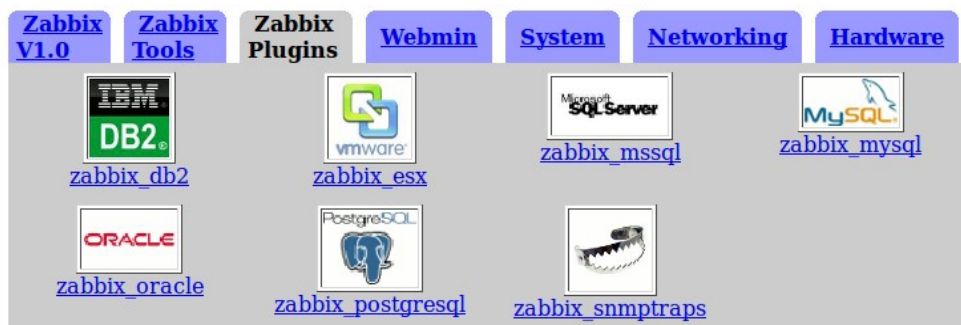
Read Online Help, it will guide you for the Database Monitoring Setup. The Version 1.1 frontend is not able to configure more than one Database Instance, but you can configure the Zabbix Monitoring with ssh connection if you need more. Database Templates are included in the OVF zip file.

2.9 Configure other Plugins

Go to Zabbix Plugins Tab.

2.9.1 Configure ESX Monitoring parameters

Go to zabbix esx icon and configure the parameters according your ESX server. Clicking on the name of the parameter will return you an online help.

Default Parameters	
default_user	no_default_user
default_password	no_default_password
ESX Parameters	
esx_name	ESX_Name
host	hostname or IP
username	user_name
password	secret_password

Save config & launch esxi checks by cron

Templates Configuration
On Zabbix frontend, ESX hosts must be configured with one template :
- T-ESX Template that contains ESX monitoring items.

Hosts Configuration
On Zabbix frontend, one macro must be configured on ESX hosts:
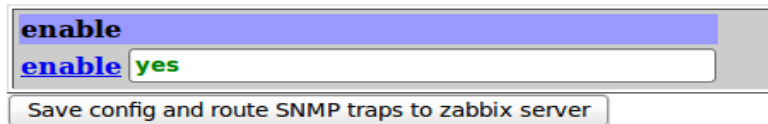- {$VOLUMEx} macros contain the name of the Datastores.

Online Help

 Read Online Help, it will guide you for the ESX Monitoring Setup. The Version 1.1 frontend is not able to configure more than one ESX server, but you can configure the Zabbix Monitoring with ssh connection if you need more. Database Templates are included in the OVF zip file.

2.9.2 Configure SNMP Traps parameters

Go to zabbix snmptraps icon and enable/disable the SNMP Traps routing to the Zabbix server.

 We do recommend to centralize SNMP Traps Analysis directly on the Zabbix Server that is able to dispatch traps among servers (since version 2.0.0), the purpose of this plugin is just the automatic routing according your network (crypted connection or not) to the Zabbix Server.

enable	
enable	yes

Save config and route SNMP traps to zabbix server

3 TEMPLATES

3.1 Proxy Template

In the OVF directory, you will find a template T-ZABBIX-PROXY designed for proxy monitoring, we recommend you configure it for monitoring your proxy, but this is not mandatory.

On your zabbix frontend, Go the Tab Configuration > HOSTS > Choose the proxy and configure the template from the Templates Tab.

3.2 Other templates
Usage of other templates is explained in Zabbix Plugins paragraphs.

4 TROUBLESHOOTING

4.1 Dump

For any problem, please report it to Core IT Project support by sending the dump that will be generated as following.

Go to the Zabbix Tools Tab.

Go to zabbix dump Module icon and download the dump to your Desktop from your browser. The dump contains nothing confidential except TCP/IP ergonomy (IP adresses, …), it contains Zabbix configuration, zabbix & system logs and the ergonomy of the VM. You can add some additional files to the dump upon support request.
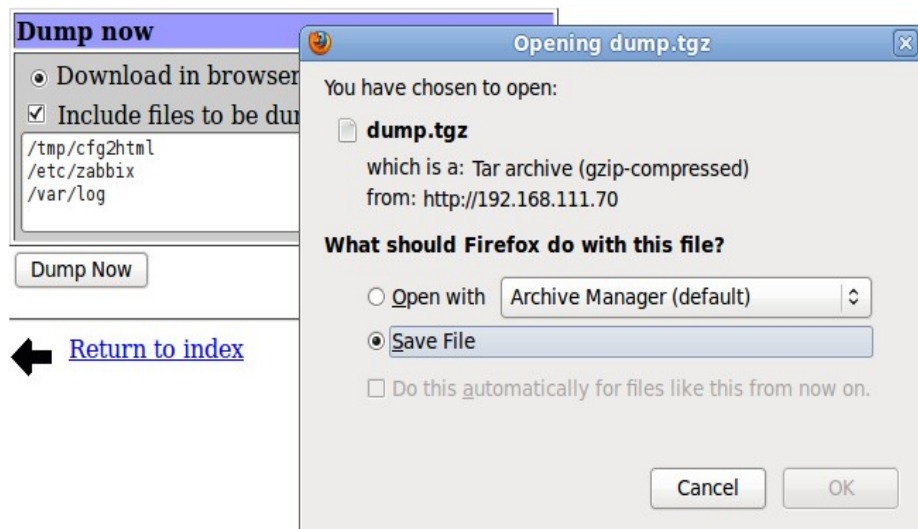
Please send the dump to support@coreit.fr with a description of the problem.

5 SSH CONNECTION

You must connect via ssh for every operation that is not not supported via frontend, for example:
- adding a Debian package
- configuring a zabbix parameter that is not configurable via frontend
- Managing several Database Instances (frontend will be able to manage them from version 2.0)
- ….

 As the console keyboard is configured as AZERTY, you may want to reconfigure it with the following command: *dpkg-reconfigure console-data*

6 CAVEATS AND EXCEPTIONS

Caution, some operations are not yet supported.

- **As the solution is highly embedded with webmin, we strongly discourage you to update webmin.**
- **Normally Debian updates must be supported by the solution but we recommend you test it before**
-

7 ROADMAP

Roadmap
V.0.1 first Major version – November 2012 V.0.x minor versions (corrections & & zabbix new versions)
V.1.0 second Major version – January 2013 - Debian/Webmin Updates - Zabbix new versions - Crypted connection between zabbix server & zabbix proxy - Add more fields in admin GUI instead of storing values in default config file - Add ESX & Database Monitoring V6 on Proxy - Add snmp traps facility - V.1.x corrections versions & zabbix new versions
V.2.0 third Major version – Summer 2014 - Debian/Webmin Updates - V.2.4 Zabbix monitoring

8 SUPPORT

All support requests must be sent by mail at
support@coreit.fr

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